Teaching Staff's and Students' Initial Perceptions and Satisfaction with Teaching and Learning via the Blackboard LMS

Norah Al-Malki, Abdul Halim AbdulKarim and Fouad Shoie Alallah
King Abdulaziz University, Jeddah, Saudi Arabia

Abstract—**The aim of this paper is to demonstrate the degree of teaching staff's and Students' satisfaction with the teaching and learning experience via the Blackboard ™ Learning Management System (LMS), recently acquired by King Abdulaziz University (KAU) as an online solution supporting distance education programs. Teaching staff's and students' perceptions about the e-courses offered via the LMS were collected in four areas: 1) E-course Content, 2) LMS Ease of Use and Performance, 3) Communication Facilitation, and 4) Delivery Methods. The respondents' observations on these topics were gathered via two short, Likert-scale questionnaires which were distributed during the Summer Semester of 2014. The researchers sought, through this preliminary investigation, to identify issues which might impact the implementation of the Blackboard LMS in the Distance Education programs in KAU. Generally, the results indicate a relatively high satisfaction rating of the LMS from both groups of users.**

Index Terms—**Blackboard, Faculty, LMS, Satisfaction, Students.**

I. INTRODUCTION

Learning Management Systems (LMSs), used to deliver online learning, give higher education (HE) institutions the opportunity to extend their educational influence to communities which do not have access to HE's traditional settings or resources. These systems allow for the administration and monitoring of educational resources in Distance and Blended Learning programs. Hence, it is of importance that HE institutions implementing such technologies work on validating their usefulness through evaluating users' satisfaction with the LMSs features (either the technical ones, or ones supporting information delivery).

The Deanship of E-learning and Distance Education (DELDE) at King AbdulAziz University (KAU) recognized that various well-known LMSs have gained popularity for creating course materials which students can access remotely, hence its acquisition of the Blackboard Learn ™ LMS did not come as a surprise, as it demonstrated DELDE's continuous efforts to support KAU faculties in adopting online learning practices through implementing state-of-the-art learning solutions. With this shift towards a new technology, DELDE did not ignore the necessity of measuring the impact of these solutions on students and staff. DELDE espouses that faculty's and students' response to these innovations be evaluated on a regular basis, hence the continual effort to gather users' input on these technologies. Therefore, as part of a research agenda in this field, the researchers started gauging staff's and students' reaction to and evaluation of the Blackboard LMS in teaching and learning contexts.

Research in the field of students' satisfaction with LMSs is not new and continues to hold a center position in e-learning research. Generally speaking, LMSs impact teaching and learning practices in terms of how learning experiences may be developed, and what kind of complexities that such LMSs place in the way of teachers and learners [1]. Pratt [2], for example, encourages conducting studies in the domain of learner satisfaction with LMSs because, as he notes of Australian universities, "the lack of critical examination of their [LMSs] merit to these institutions" had led "in some cases to wasted resources, unfulfilled expectations, program and organisational failures." Dealing specifically with Bb LMS, Liaw [3] investigates learners' satisfaction, behavioral intentions, and the effectiveness of the Blackboard e-learning system and concluded that the perceived usefulness of the system is the sum value of all these factors. Carvalho, Areal, & Silva [4] went a step further and, through a comparison between Blackboard and Moodle, tried to measure the impact of LMSs on student level of engagement. Green, Inan, & Denton [5] explore the impact of a newly implemented LMS in a Turkish university through an investigation of students' satisfaction. Their research findings indicated that usability of the LMS and availability of technical assistance is strongly correlated with student satisfaction. Higgins and Krieg [6] conducted two studies on the Auckland University of Technology's adoption of Blackboard for both staff and students and reported an overall positive view of both groups.

The purpose of the present paper is to demonstrate the results of a preliminary evaluation of teaching and learning practices via the Blackboard LMS in King Abdulaziz University with special focus on how it supports these practices. The findings of this inquiry will be used to identify prevalent issues and concerns on the part of staff and students who use Blackboard on a regular basis. We assumed that both sets of users were apprehensive about migrating to Blackboard, not due to the lack of training or adequate ICT skills, but because they became so comfortable with the previous LMS (EMES and CENTERA) that they approached the new system with a few concerns. As Christie and Garrote Jurado [7] pointed out, what prevents teaching staff from trying out new LMSs, such as Blackboard™, are understandable concerns, which necessitate that staff –as well as students-- need to be convinced of the potential of these LMSs. DELDE immediately decided to address these concerns through training and live support as well as investigating users' responses to it.

Our aim, in this research project is to catch and document the first reaction of both staff and students to the implementation of Blackboard™, and probably think of ways to counteract the resistance to the new LMS if it ever occurs through identifying the concerns of both groups, and suggesting solutions for them. We hypothesized that with adequate training and timely support, a first run of the Blackboard LMS will be judged relatively satisfactory by both teaching staff and students given that they received extensive training and support during the period leading up to the implementation of the LMS. However, both groups' evaluations will be a major source of information for DELDE that will help in improving the LMS in ways which address the needs of both staff and students in the Distance Education programs. To be more specific about the focus of our research project, we asked ourselves questions like:

1. Do teaching staff recognize the possibility of presenting dynamic course content via the Bb LMS?

2. How do students feel about content completeness and comprehensiveness as delivered via Bb LMS?

3. Are staff and students satisfied with the ease of use of the LMS features?

4. How far does the LMS facilitate communication and interaction among students and staff?

5. Does the LMS support proper and engaging delivery of the courses?

II. METHODS

A. Data Collection

The data collected for this paper came from two short, Likert-scale questionnaires. The first (18-items questionnaire) was administered among teaching staff who taught in the Distance Education program during the summer semester of 2014. The second (12-item questionnaire) was distributed among Distance Education students who were enrolled for the summer courses during that semester. Both questionnaires were divided into four sections highlighting four main topics: 1) E-course Content, 2) LMS Ease of Use and Performance, 3) Communication Facilitation, and 4) Delivery Methods. Because both groups were accessing and using the LMS for the first time, the questionnaires did not inquire in detail about tool preferences, frequency of use, and specific problems or issues which the users encountered while using certain LMS features. The users were still in the early stages of trying to navigate the system and courses easily, were worried about performance issues, were very much interested in accessing content and communicating effectively, and were constantly asking questions about how to go about "teaching" or "learning" using basic tools of the LMS. A web-based version of the questionnaires were sent to all staff and students of the Distance Education programs.

B. Participants

65 teaching staff and 433 undergraduate students answered the two questionnaires. As previously indicated, both staff and students were participating in Distance Education courses taught during the Summer of 2014, and came with a minimum knowledge of the Blackboard LMS, which was only piloted during the second semester of the same academic year. The participants came with a basic-to-advanced levels in ICTs, and were mostly used to the EMES' (KAU's previous LMS) interface and features

which differ greatly from Blackboard. The students participating in the Distance Education courses were not all residents of Jeddah, Saudi Arabia, where King Abdulaziz University is located. They came from other regions in Saudi Arabia, which made it difficult to hold focus groups or have live discussions. We have to note as well that the teaching staff in the Distance Education programs are not the actual developers of the e-courses offered via Blackboard™. They are contracted each semester to teach these courses to cohorts of KAU students. This means that their experience of the e-courses content is invaluable to us especially now that the e-courses are offered via Blackboard. At this stage, moreover, a detailed profiling of the users was not a priority because a limited number of Distance Education courses were offered during the summer term, and because we cared about the users' general experiences of the LMS in teaching and learning contexts.

III. RESULTS AND DISCUSSION

Both tables 1 and II (below) demonstrate teaching staff's and students' perceptions of and degree of satisfaction with the teaching and learning experiences via Blackboard.

Apparently, in the first category, where teaching staff were asked about their evaluation of the e-courses content (whether developed by them or other staff) and how they interact with it, they reported their general satisfaction with content alignment to learning outcomes, and content augmentation using various resources. The Blackboard LMS allowed for more flexibility regarding the enhancement of e-course content, which helped in realizing DELDE's policies concerning the issue that teaching staff should have a more active role in course enhancement while teaching. With the Blackboard LMS, the contracted teaching staff are now able to add to the content of the developed courses, unlike their earlier experiences with the EMES LMS. Generally, the students expressed a positive view of e-course content's sufficiency, up-to-date status, and augmentation with other resources. Some students, however, seem to be more critical of the items under this category, or at least, neutral to them, which calls attention to how course content, with the flexibility now available via Blackboard, should be considered a priority for course developers and teachers.

Concerning the second category, where they were asked to rate their experience with the LMS's ease of use and performance, we noted a general positive attitude towards both Blackboard Learn and Collaborate, which points out how the LMS is not that complex after all, as we anticipated. We have to consider how LMS usability and performance support staff and student experiences: a system that is not likely to operate fully and effectively (whatever the reasons) might affect staff's dedication to teaching and students' engagement, eventually threaten the achievement of learning outcomes. We have to consider, at this point, the amount of work that has been done to support the users throughout the early stages of implementation, and how many of the issues related to performance, tool use, or ease of access where explained. We must, however, acknowledge the significance of the "neutral" responses in this category because they indicate that some teaching staff could not pass a clear-cut judgment on the issue. We have to note that performance is most of the time affected by the accessibility to good internet services which varies due to faculty's mobility (better access and

performance of the systems is ensured via KAU network). Concerning the various features of the LMS, mentioned in this category, like content creation, collaboration, and assessment design, it is significant to note that the some staff's neutrality to them could be attributed to the fact that most developed e-courses on Blackboard are already complete SCORM packages (including activities and assessments) so they might have felt that adding to the main course is not necessary, at least during this semester. Students, on the other hand, were asked only to report on the LMS's ease of use and performance in general terms, to which they responded, as indicated in (Tab 2), positively. As with the teaching staff, the neutrality can be attributed to device or network performance rather than the LMS's especially with the amount of testing that DELDE is running on the system. These concerns however, are addressed by DELDE in the form of live training and support as well as announcements in case something takes place that might affect the performance of the LMS.

Most respondents on items related to the third category, indicated a very good satisfaction rate with the communication services offered via Blackboard Learn and the Collaborate, which points to the great capabilities of the system as well as faculty's and students' awareness of these capabilities. The "neutral" responses—as previously hinted—have a weight on our interpretation of users' satisfaction. Probable causes for their neutrality include: 1) they were not trained properly on using these tools, so they could not pass a judgment on them being useful or not, and/or 2) they never used them during the course delivery period because they were skeptical about their reliability at this stage. In both cases, this necessitates paying attention to effectively motivate staff and students to use these communication tools.

The final set of items inquired about staff's delivery methods via Blackboard and whether or not they differentiated teaching and assessment according to students' needs for the sake of engaging them. It is like asking an implicit question about whether or not the LMS allowed for such differentiation and engagement. Of course, DELDE is working on creating the most optimal experience possible to KAU students and that will be achieved through training staff to implement best methods when teaching online. Hence, the positive attitude indicated in the questionnaire's responses point out a relatively high degree of satisfaction on the part of the teaching staff who use the Blackboard in their teaching. Interestingly, the majority of students' responses point to the same thing as well. They were mostly satisfied with how Blackboard allowed for content presentation in various formats (covering or attempting to cover their learning styles), how courses were engaging, and the activities and assessments augmenting the learning experience. Again the neutrality of some students' responses should be taken into account in both course development and delivery via the LMS.

IV. CONCLUSION AND IMPLICATIONS

The researchers, through this preliminary study of the Bb implementation at KAU, support the view that staff and students must feel comfortable with the Blackboard LMs so that they can focus more on teaching and learning, and less on acquiring the technical skills to use the system. The results of study conducted at this stage help us initiate a dialogue on issues that might influence staff's and students' perception of the Bb LMS in KAU. Issues like

designing course interfaces, navigation, and content delivery options and features in Bb surfaced as potential satisfaction risks that have to be addressed immediately:

1. The e-courses delivered via Bb should be enhanced with resources that make students motivated to pursue their learning practices in this environment rather than seek out printed content of the same resources. This calls for finding ways to enhance the LMS features to support simulations, interactivity, etc. Multimodality should be as well encouraged in course design and enhancing system features to support this. This, as the researchers assume will make the students better satisfied with course content delivered via Bb.

2. Staff and students need more instructions on how to use the system and these can be designed in multimodal formats (video, text, audio, etc.) and delivered as a mandatory course which users have to take at the beginning of each semester. DELDE has created multimodal tutorials as a first step towards achieving this goal and integrated these in the Bb LMS.

3. The design of interfaces and navigation in course sites should be considered a priority because it gives staff and students a sense of safety being in an environment that is well-structured and directive. Chaotic online learning environments drive students away and overshadow the value of the content presented. DELDE recognized the need for uniformity and allowing students easy navigation in the courses, so a basic course shell was created for that purpose with access to relevant course resources and activities.

4. Communication features in Bb, as the survey demonstrated were rated positively, however, the need is still there to maximize their potential in supporting the learning experience on a regular basis.

5. DELDE's investment in training should be prioritized as it will help both staff and students use the system successfully.

This study does not offer a comprehensive evaluation of all factors contributing to staff's and students' satisfaction. The focus has been to demonstrate their perceptions of the Bb LMS which is recently implemented in KAU with an emphasis on the LMS's features that support E-course Content, Ease of Use and Performance, Communication Facilitation, and Delivery Methods.

The online teaching environment is fairly new and it may be inferred that faculty could benefit from learning about online pedagogy by attending seminars that can demonstrate efficacy of the online teaching environment. Further insight into staff's use of the online environment is planned after a 2-year implementation of the LMS. With additional training, seminars and awareness of how online course tools can be used to improve teaching and learning, faculty can be shown how Blackboard might be used at a level that can directly affect learning outcomes.

This research has implications for educational institutions wishing to provide students with a quality e-learning experience. At KAU, we plan a deeper inquiry into students' satisfaction with the Bb LMS which will be conducted when students are more familiar with the system's features, and how to use them effectively. Correlations between students' satisfaction and engagement and/or performance will be measured as well in later studies.

TABLE I.
STAFF'S RESPONSES

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Course content aligned to learning outcomes	50.70%	48%	0%	0%	2%
Course content augmented with real life examples	68%	32%	0%	0%	0%
Course content augmented with additional resources (links, files, etc.,)	40%	55%	5%	0%	0%
Blackboard Learn is relatively easy to use.	29.20%	52.30%	15.30%	3%	0%
Blackboard Learn usually performs well	23%	52.30%	21.50%	3%	0%
Blackboard Collaborate is relatively easy to use.	18.40%	50.70%	26.10%	4.60%	0%
Blackboard Collaborate usually performs well	18.40%	50.70%	18.40%	9.20%	0%
Adding resources to the Blackboard Learn course is easy.	24.60%	55%	12.30%	7.60%	0%
Blackboard Learn offers various tools to engage students	31%	51%	15.30%	3%	0%
Blackboard Learn allows for easy assessment design	29.20%	46.10%	18.40%	5%	0%
Blackboard Learn helps monitor students' performance	18.40%	52.30%	18.40%	7.60%	0%
Blackboard Collaborate offers various tools to engage students	29.20%	46.10%	23%	1.50%	0%
Blackboard Learn makes communication easy with/among students	24.60%	56.90%	10.70%	7.60%	0%
Blackboard Collaborate makes communication easy with/among students	18.40%	63%	13.80%	3%	0%
Updating students with new information is easy via Blackboard	29.20%	53.80%	15.30%	1.50%	0%
Content is suitable to learning styles	44.60%	52.30%	3.00%	0.00%	0%
Students are encouraged to actively participate during the delivery of the course	58.40%	40.00%	1.50%	0.00%	0.00%
Different types of assessment are be applied	38.40%	55.30%	4.60%	1.50%	0%

TABLE II.
STUDENTS' RESPONSES

Item	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
All course content are up-to-date.	34.40%	43.60%	12.40%	5%	4.30%
Course content augmented with real life examples	35.10%	44.80%	10.10%	6.20%	3.60%
Sufficient course content is provided in all courses	29%	46.80%	11%	9.90%	3%
Course content augmented with additional resources (links, files, etc.,)	25.80%	41.80%	18.20%	9.40%	4.60%
Blackboard Learn is relatively easy to use.	39.20%	40.10%	10.10%	4.30%	6%
Blackboard Learn usually performs well	26%	45.40%	13.60%	9.40%	5.30%
navigating the LMS for content and resources is relatively easy	39.40%	43.40%	9.40%	3.40%	4.10%
Blackboard makes communication easy with instructors/among peers	39.70%	43.80%	9%	4.10%	3.20%
LMS provides updated information from all my instructors.	31.60%	46.60%	13.10%	3.90%	4.60%
Course content and its presentation are easy to understand and follow	28.80%	48.9.6%	12.20%	6.40%	3.40%
Learning via the LMS is engaging	30.40%	44.10%	14.50%	5.70%	5%
Blackboard activities and assessments augment the learning experience	32.10%	47.10%	10.80%	5.70%	4.10%

REFERENCES

[1] H. Coates. (2007). A model of online and general campus-based student engagement. *Assessment & Evaluation in Higher Education*, 32(2), 121-141. http://dx.doi.org/10.1080/02602930600801878

[2] J. Pratt. (2005). The Fashionable adoption of online learning technologies in Australian universities. *Journal of the Australian and New Zealand Academy of Management*, 11(1), 57.

[3] Shu-Sheng Liaw. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system. *Computers & Education*. 51 (2), 864–873. http://dx.doi.org/10.1016/j.compedu.2007.09.005

[4] A. Carvalho,, N. Areal, & J. Silva. (2011). Students' perceptions of Blackboard and Moodle in a Portuguese university. *British Journal of Educational Technology*, 42, 824–841. http://dx.doi.org/10.1111/j.1467-8535.2010.01097.x

[5] Lucy Santos Green, Fethi Inan, & Bree Denton. (2012). Examination of factors impacting student satisfaction with a new learning management system. *Turkish Online Journal of Distance Education*, 13 (3), 189-197.

[6] Andrew Higgins, and Janneke Krieg. (2008). Staff and student views of AUTonline (BlackBoard) after three years. *Journal of Distance Learning*, 12 (1), 1-11.

[7] Christie, M., & Garrote Jurado, R. (2009). Barriers to innovation in online pedagogy. *European Journal of Engineering Education*, 34(3), 273-279. http://dx.doi.org/10.1080/03043790903038841

AUTHORS

Norah Al-Malki, Abdul Halim AbdulKarim and **Fouad Shoie Alallah** are with King Abdulaziz University, Jeddah, Saudi Arabia.